

RECORDS MANAGEMENT REVIEW  
Vol. III No 5  
Enclosure (7)  
(Microphotography)

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ON  
HOSPITAL RECORDS AND THE WEAPONS OF COMPRESSION IN  
THE BATTLE FOR FILING SPACE  
TO  
THE MEMBERS OF THE NATIONAL MICROFILM ASSOCIATION  
UPON  
THE OCCASION OF THE ANNUAL MEETING  
AT  
THE HOTEL WALDORF-ASTORIA  
NEW YORK CITY  
MARCH 19-20, 1953



## HOSPITAL RECORDS AND THE WEAPONS OF COMPRESSION IN THE BATTLE FOR FILING SPACE

The number of patients that are hospitalized each year in the United States is so great that it readily eludes the imaginative guesses of the average citizen. During the calendar year of 1951 there were a total of 18,783,000 patients hospitalized, of which 16,676,000 were short term patients. When this large volume of patients has been diagnosed, treated and returned to a normal life, freed of illness and physical incapacity, the hospitals may look with rightful and justifiable pride upon the results of their handiwork.

It would now appear that we have arrived at the happy ending of a short, short story; however, this is not true, for one character in the plot has not been previously mentioned - the Record. At this point the hospital system is in the position of a hostess that has just bid the last guest good night after a very successful dinner party, during which she received many compliments. As she stands in the middle of her living room, mentally expending her pleasant memories of the party, she comes to a most gratifying assurance - the knowledge of a job well done. When the warm glow of this pleasant mental state has subsided, however, what has she remaining from this exciting evening? Yes, you've guessed it - a sink full of dirty dishes. Now, these are not ordinary dishes but rather are her best and constitute one of her most highly valued possessions. Therefore, she must care for and properly store them in the space that has been provided for this purpose and they are then ready for the next party.

Unfortunately, the hospitals are not in any such enviable position as pertains to the patients' hospital or clinical records. These records can not be stored with the view toward utilization by the next group of patients. Each patient, in essence, causes to be created his or her own individual clinical record. There are varied and highly justified reasons why these records must be retained for long periods of time. In the teaching hospitals and medical schools these records constitute an invaluable source of material for teaching and research purposes. In addition, there are numerous statutory and statistical requirements to be considered. It is quite easy to ascertain why the medical portion of a hospital with a patient capacity of one thousand will not exceed one thousand patients at any one time from year to year. Thus we have a stable space factor. The administrative portion, however, at the end of the first year is faced with the problem of retaining from fifteen to twenty-five thousand clinical records, depending upon the total number of patients that were hospitalized. Therefore, it may be readily visualized that in a very few years the space allotted for records will be bulging at the seams. The neat package of clinical records created each year, based on the 1951 short term patient load, will occupy approximately 41,000 square feet of critical space and the costs for personnel, filing equipment, space and maintenance will be in the neighborhood of \$1,500,000. for the simple task of placing them in filing cabinets. This figure does not include the costs for subsequent reference service to this large file.

\* The opinions, recommendations and assertions contained in this presentation are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large.

Since it is quite reasonable to assume, and rightly so, that the medical portion of the hospital is not going to sacrifice any of its valuable space to this unrestrained paper monster, the situation then becomes a records management problem. Henry Thoreau, the American poet-naturalist, once said, "The mass of men live lives of quiet desperation". In view of his observation, it is my opinion that Mr. Thoreau undoubtedly was well acquainted with some records management people; especially those involved in the perennial search for "that few extra square feet of space".

There is a saying in this business to the effect that the lip on the wheel that prevents a records management man's trolley from slipping its track is extremely narrow. However, I cannot agree with this statement in the face of an overwhelming mass of evidence to the contrary. It appears to me that the lip on the wheel has a comfortable margin of safety in its width. In the preponderance of cases this width will be sixteen millimeters and, depending upon the particular situation, others will be blessed with a width of thirty-five millimeters.

This now brings us to a review of the tools I have termed "The Weapons of Compression". There is no doubt in my mind that the tools to which there is reference are those that are the nearest and dearest to the hearts of most of you; namely, microfilm and the allied equipment and supplies that comprise the microfilm family.

I shall digress for the moment and verbally attempt to place the microfilm family in the same category as the weapons of war. These weapons may be classified into two groups: Tanks, artillery and mortars that comprise the support weapons, and the basic weapon which is the infantryman's rifle. Parallel with this reasoning, the hospital records are classified as inactive or semi-active, with a low reference rate, that correspond with the support weapons of war. By using the same factors let us place the very active records, with a high reference rate, in the category of the basic weapon of war. The weapons and records are now properly classified and all that remains of this comparison is the placing of the microfilm family in the applicable classifications. In this discussion it is considered that the "Weapons of Compression" are assembled from three major parts: (1) Microfilm, which constitutes the small but high velocity projectile; (2) Unitized cards as the magazines for ammunition storage and (3) Viewing equipment as the trigger or firing mechanism.

Now that the compression weapon is assembled it shall be utilized to attack the space problem surrounding the inactive or semi-active hospital record. In view of the statutory, teaching and research requirements for a relatively long retention of these records, it may be reasonably assumed that in the short period of from three to five years, based on statistics previously stated, the overall bulk of these hospital clinical records will have reached a staggering proportion. Unfortunately, this large volume of space is normally expected to come from the area where space is an extremely critical and expensive item. The situation becomes even more incongruous with the knowledge that, irrespective of the presently over-crowded conditions of most of our hospitals, there will be a minimum patient load increase of 700,000 per year. This fact is well substantiated by the patient load statistics for the past six years.

It is a regrettable fact that hospital records management has, in many instances, had to resort to sub-standard space of any type, such as old broom closets, ex-fuel bins and insect or rodent infested garages. This type of procedure is usually described as interim; yet, in many cases goes on for years. A records storage program of this kind causes an unnecessary waste of manpower in the searches for required case histories, and such conditions sometimes result in partial or complete destruction of the records. This situation is comparable to pouring sand down a gopher hole. The only accomplishment is to waste a lot of sand and ruin the gopher hole for its intended purpose. Therefore, it is reasonable to assume that concurrently with the determination that the records are worthy of retention there is established a *prima facie* justification for their proper maintenance and storage. In conjunction with my experiences, the only reasonable solution to this problem is to place the records on microfilm and file the film in unitized cards. The records are then readily available, a minimum of 75% of the original space has been regained, there is a more efficient utilization of manpower and a sizeable saving has been effected in the cost of filing equipment. The entire operation will pay for itself in a relatively short period of time. In addition, there is one other thought that I would like to interpose into the discussion: The microfilming of the X-rays after they have served the clinician's purpose in the treatment of the patient. In most hospitals records programs devised to bring about an efficient usage of space, the X-rays are not given serious consideration. These films are a very informative and valuable portion of the clinical history in any hospital record. However, the X-rays, like the paper records, have the undesired proclivity of attaining a considerable bulk in a few years. By virtue of the equipment presently available that will reduce X-rays to microfilm and retain an acceptable grade of detail, there no longer remains a thoroughly reasonable excuse for retaining large X-ray films *per se* for years after the patient has been treated. In view of the excellent salvage value of exposed X-ray films, the funds realized from the subsequent sale of such film will go a long way toward paying for the microreproduction. The microfilm image of the original X-ray may then be filed in the unitized card with the clinical record and the entire history has been compressed into a small, efficient package.

It may be readily assumed from the foregoing statements that, in my opinion, the microfilm family comprises an excellent weapon for use in the battle of space surrounding the inactive or semi-active record. However, in the case of military weapons there is an adequate supply of manuals and instructors available to teach the users the mechanics of the weapons. This is not true in the case of the "Weapons of Compression". It is conceded that many hospitals and allied medical activities use microfilm, but how many of them will recommend microfilm? We must remember that most medical facilities do not have a Methods and Procedures Department. When they are sold a product such as microfilm and then are left alone to find out its practical uses in their own fashion, the resultant situation may, in some instances, be nothing short of chaos. A condition of this type may well result in the erection of a barrier against microfilm that will take years to penetrate, even when using a good weapon. Situations such as these do not help microfilm nor do they encourage its recommendation to other potential users. Therefore, it is suggested that the responsibility of the microfilm

family does not end with the completion of the sale. Many facilities would buy microfilm today and many more will in the future, provided that there is unequivocal assurance of the receipt of two items for their money: (1) Quality in the equipment and service and (2) Systems assistance to ascertain that the proper tools are provided for the particular job, with a subsequent follow up to make sure that these tools are used intelligently. The hospital or medical facility must not be permitted to become the servant of microfilm when, in reality, the positions are diametrical by original design.

In mentioning again the proper tools for the particular job, we are brought face to face with the second phase of the battle for space. This battle involves the space occupied by the active, high reference, so called "live" record. To properly joust with this opponent we must know his potential strength and weaknesses. The reports of our intelligence group definitely show the principal strength to be in the rapid propagation and the justified requirements for a long period of retention. Conversely, the principal weakness is vested in the fact that due to the dispersion over a large land mass the records are not readily available for a fast trip to a central area where they may be drained of their vital information. The reports further demonstrate the essential requirement for a method to quickly and simply drain off this information. Since the draining off is performed by high calibre professional personnel, every effort must be put forth to assure a quick delivery of the maximum amount of information with a minimum of mechanical gymnastics on the part of the physician. It is not unusual for doctors reviewing these active records to be required to evaluate as many as three hundred cases per day. In a large percentage of these cases the record covers the medical history of many years and not just the report of one period of hospitalization. This review may not be for research or teaching purposes but is more likely to involve a determination pertaining to physical capacity to perform certain arduous tasks. Any doctor performing this type and volume of review of medical records can not and will not be subjected to performing unitized card juggling in order to get the information desired. Many mechanics would like to be doctors but not many doctors want to be mechanics. There can be no true dollars and cents value applied to a doctor's time, for that would be placing a monetary value on a quality that, when lost, is irretrievable - a human life. An assay of these factors readily points out that a strong opponent in this battle will be time - or rather, the effective utilization of time in extracting the information from the records.

Well fortified with information the battle may now be joined. By pre-determination this is a job for the basic weapon. However, we have equipped the infantryman with a singular rifle. The projectile retains its high velocity and striking power; the magazine provides a readily available supply of ammunition to maintain a high rate of fire. The weapon thus far is a thing of modern engineering skill. Why, then, is it not putting forth the firepower necessary to win this battle? Upon a closer examination of the weapon the reason becomes quite obvious. The firing mechanism is a flint lock and it was not designed for sustaining the high rate of fire that is required to do this job.

It is not my intention to convey the impression that the presently available viewing equipment is not good. When applied to the proper type of film library it is excellent. Nonetheless, it is my firm opinion, quite well supported by experience, that the viewing equipment presently available is entirely inadequate to handle the job surrounding the tremendous and unopened field of highly active records. No administrator can afford to convert his records into a system that will increase the requirements for additional professional reviewers by ten or, possibly, twenty fold.

In view of the knowledge of this shortcoming I have consistently maintained the view that microfilm has been plowing the lower forty acres in the field of records management. Therefore, my suggestion to you is simple and direct. Bring to us a microfilm viewer that will change the images as fast as the turning of paper pages by hand and with no more effort or distraction. Give this weapon a screen large enough to show from four to six original size images at the same time. Knock at the gate of the buyers' market of the present with this weapon and, in my considered opinion, you will ultimately gain "Open Sesame" to a field so large it is doubtful you will ever see the far side over the horizon.

In conclusion I wish to leave you with this pertinent reminder. The medical records management man of today is a self centered and well satisfied animal. The statutory, teaching and research requirements make it mandatory that his active, high reference records be available for quick review. These same requirements will continue to serve as justification for next year's space budget. Therefore, he can afford to rest on his laurels through an indefinite wait. Can you?

